HAWKINSON
EXHIBIT F

IN THE UNITED STATES DISTRICT COURT
FOR THE EASTERN DISTRICT OF TEXAS
MARSHALL DIVISION

KAIFI LLC,

Plaintiff,

v.

T-MOBILE US, INC. and
T-MOBILE USA, INC.,

Defendants.

CASE NO. 2:20-CV-281-JRG

JURY TRIAL DEMANDED

DECLARATION OF PETER RYSAVY

litigation *did not* construe the whole phrase "location information of the data communication terminal received through the indoor network or outdoor wireless internet network." It is this phrase that is the subject of the parties' dispute. Particularly, the issue is what is the meaning of "location information of the data communication terminal received through the indoor network" and "location information of the data communication terminal received through the . . . outdoor wireless internet network."

33. In the context of claim 1, "location information" includes specific information at specific times, depending on the network to which a subscriber is connected. While the "location information" can be both locational area and indoor system ID information, the '728 patent requires specific location information in specific situations.

34. Specifically, in the context of the '728 patent, a POSA would understand that "location information of the data communication terminal received through the indoor network (*i.e.*, when connected via the claimed "indoor network") is indoor system ID information, and that "location information of the data communication terminal received through . . . the outdoor wireless internet network" (*i.e.*, when connected via the claimed "outdoor wireless internet network") is locational area.

35. The '728 patent repeatedly describes when specific types of "location information" are required. For example, in the Summary of the Invention, the '728 patent states: "When the data communication terminal is located outdoors, the location information is information on a locational area; and when it is located indoors, the location information is indoor system ID information." '728 patent at 3:48–51. In the Detailed Description of the Invention, the '728 patent repeats this: "The location information stored in the location register 80 is information on a locational area when the data communication terminal is located outdoors. On the other hand, when the terminal is located indoors, it is indoor system ID information." '728 patent at 9:16–20.

36. This is necessary for the invention of the '728 patent to operate as intended. The "location information" of the '728 patent is stored in a location register "to confirm as to whether the user of the wireless internet terminal is located indoors or outdoors." '728 patent at 3:9–13. Then, using this information, the system "switch[es] network paths to provide the roaming service in accordance with the location information stored in the location register." '728 patent at 3:13–15. As the specification explains, the "indoor system ID information" is "unique," which a POSA would understand allows the system to route communications to the data communication terminal when it is connected to an indoor network. *See* '728 patent at 8:47–55. For example, the patent explains that, when a user is connected to an indoor network, "information provided from the internet is transferred to the indoor gateway 100 in accordance with the user location information stored in the location register 80 without passing through the outdoor wireless LAN network." '728 patent at 11:64–12:1. "[W]hen the HA/FA location register 80 receives a signal requesting the transmission of a call incoming message or the voice data from the PSTN, the location register 80 transmits the call incoming message or voice data to the indoor gateway 100 in accordance with the user's location stored in the location register 80." '728 patent at 13:31–36. The claimed system would not be able to transmit the data to the indoor network in accordance with the stored location unless the "location information" in the location register includes at least the indoor system ID information. Likewise, when a user is connected to an outdoor wireless internet network, data is transferred to the device "in accordance with the location stored in the location register 80." *Id.* at 9:63–67.

37. In other words, the "location information" (whether indoor system ID information or locational area) is part of what the claimed system uses to route communications to the indoor network or outdoor wireless internet network. Thus, a POSA would understand that "location information of the data communication terminal received through the indoor network (*i.e.*, when connected via the claimed "indoor network") is indoor system ID information, and that "location

information of the data communication terminal received through . . . the outdoor wireless internet network" (*i.e.*, when connected via the claimed "outdoor wireless internet network") is locational area.

B. "location register that stores location information of the data communication terminal received through the indoor network or outdoor wireless internet network" (claim 1)

T-Mobile Proposed Construction	KAIFI Proposed Construction
"location register external to the data communication terminal that stores location information of the data communication terminal received through the indoor network or outdoor wireless internet network"	"location register" should be construed as "register that records the location of the data communication terminal" The remainder of this term has a plain and ordinary meaning to a person of ordinary skill in the art, and does not require construction.

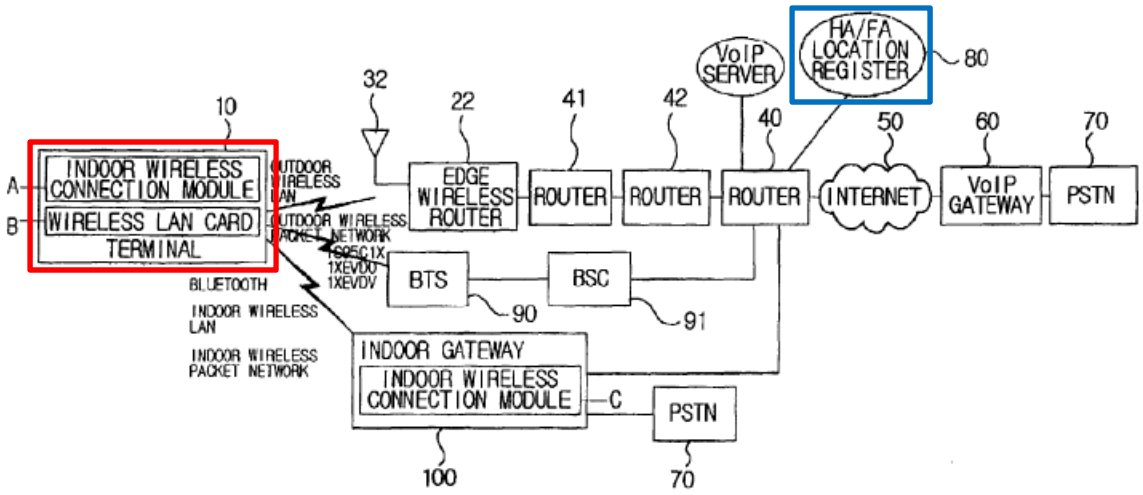
38. Claim 1 of the '728 patent requires "a location register that stores location information of the data communication terminal received through the indoor network or outdoor wireless internet network." I understand from the attorneys for T-Mobile that KAIFI contends that the claimed "location register" can be the data communication terminal. I disagree. The plain language of the claims and specification confirm that the location register is external to the data communication terminal.

39. The location register of the claims receives "location information ***of the data communication terminal*** . . . through the indoor network or outdoor wireless internet network." In the context of the '728 patent, it does not make sense that a data communication terminal receives location information about itself ***through*** the indoor network or outdoor wireless internet network, particularly because this is information the data communication terminal already has. For example, the '728 patent explains that the PDA "registers its location into the location register," confirming that the location is something already known to the data communication terminal. '728 patent at 11:30–33.

100; and an external network including the ***location register 80***, the internet 50 including a plurality of internet servers, a VoIP gateway 60 and a PSTN.

'728 patent at 8:35–43 (emphasis added).

FIG. 2



43. I have not identified a single suggestion in the '728 patent that a data communication terminal serves as the location register. And this makes sense. The purpose of the location register is to "stor[e] location information transmitted from the wireless internet terminal in order to confirm as to whether the user of the wireless internet terminal is located indoors or outdoors." '728 patent at 3:9–13. A data communication terminal does not need to receive location information "to confirm as to whether the user of the wireless internet terminal is located indoors or outdoors"; the data communication terminal is already aware of its location. Indeed, the '728 patent repeatedly confirms that the data communication terminal is already aware of its own location and sends the information to the location register. *See, e.g.*, '728 patent at 9:46–53, 11:30–33, 13:51–54.

44. Further, according to the '728 patent, the system "switch[es] network paths to provide the roaming service in accordance with the location information stored in the register." *Id.* at 3:13–15. If a data communication terminal were the claimed location register (*i.e.*, if the

location register were not part of a service provider's system), the system would not be able to provide the roaming service "in accordance with the location information stored in the register." That is, the location information must be sent to a location register external to the data communication terminal (*i.e.*, in a provider's network) so the network can provide the claimed roaming service.

45. The term "location register" is well known in the art of wireless networking technology. At the time of the '728 patent, a POSA would have understood that location registers in wireless networks are centralized databases that contain information about subscribers and mobile devices.[4] For example, in 2G and 3G cellular systems (including in systems predating the '728 patent), a Home Location Register (HLR) was a database that contained information about subscribers and the services for which they have been provisioned.[5] The HLR provided this information to other entities within the networks for various purposes. The Visitor Location Register (VLR) was a database that contained temporary information about the subscribers currently in the serving area, when roaming from the coverage of the HLR.[6] In order to provide these services, both the HLR and VLR were implemented on fixed computers at a known networking address.

46. Consistent with the industry use of the term "location register," as explained above, the location register of the '728 patent contains information about data communication terminals and is implemented within a discrete node, as shown in all of the figures. This

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[4] *See, e.g.*, Ex. 2 (GSM System Engineering) at 25, 54–55; Ex. 3 (GSM, cdmaOne and 3G Systems) at 54–61, 74, 424–25.

[5] *See, e.g.*, Ex. 4 (Newton's Telecom Dictionary) at 406 ("A permanent SS7 database used in cellular networks, including AMPS (Advanced Mobile Phone System), GSM (Global System for Mobile Communications), and PCS. The HLR is located on the SCP (Signal Control Point) of the cellular provider of record, and is used to identify/verify a subscriber; it also contains subscriber data related to features and services.").

[6] *See* Ex. 4 (Newton's Telecom Dictionary) at 406.

function needs to be in a known networking location so that queries can be made to it, such as retrieving information about a subscriber. It would have made no sense to a POSA for a database that has information about data communication terminals to be one of the terminals. For instance, the specification states that "[t]he location register 80 confirms from the registration data that the location of the user has changed from the outdoors to the indoors," '728 patent at 11:48–50, which makes it clear that the location register is separate from the data communications terminal (*i.e.*, the user). Furthermore, as explained above, this operation would not be possible if the location register was within the data communication terminal.

47. Moreover, the patent discloses that the location register may also be a home agent or a foreign agent, and uses a mobile IPv4 or mobile IPv6 address system in order to store the data communication terminal location into the location register. *See* '728 patent at 8:3–6. Just like location registers, home agents and foreign agents have well-defined and well-understood capabilities, and are implemented on non-moving computers, including on routers.[7] For example, the '728 patent explains how the location of the terminal is registered with the location register using the mobile IP registration method. '728 patent at 8:20–24. Mobile IP protocols use specific messages from a data communication terminal to a fixed node to update and register locations.[8] The notion of a data communication terminal registering its location using the mobile IP registration method, with a location register that is itself, makes no sense in this context.

48. A network would presumably have hundreds or thousands of data communication terminals. The location register contains location information about this multitude of terminals. A network design in which the data communication terminal was the location register would

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[7] *See* Ex. 5 (IETF RFC 2002) at 5 (defining "home agent" and "foreign agent").

[8] *See, e.g.*, Ex. 5 (IETF RFC 2002) at 8, 12–14 ("When the mobile node is away from home, it registers its care-of-address with its home agent. Depending on its method of attachment, the mobile node will register either directly with its home agent, or through a foreign agent which forwards the registration to the home agent.").

mean the network would consist of potentially thousands of databases with location information, which would be inefficient and unworkable.

49. Thus, in my opinion, a POSA would understand that "location register that stores location information of the data communication terminal received through the indoor network or outdoor wireless internet network" means "location register external to the data communication terminal that stores location information of the data communication terminal received through the indoor network or outdoor wireless internet network."

C. "indoor network" (claims 1, 5, 12)

T-Mobile Proposed Construction	KAIFI Proposed Construction
Plain and ordinary meaning	"a network that broadcasts system ID information able to be received within an interior of a structure"

50. The claims of the '728 patent include an "indoor network." For example, claim 1 states that "the data communication terminal may be connected with the ***indoor network*** if the registered indoor system ID information is received and by connecting with the outdoor wireless internet network if the registered indoor system ID information is not received."

51. I understand that the Court in the *AT&T* litigation construed "indoor network" as "a network that broadcasts system ID information to be received within the interior of a structure," and that KAIFI proposes that same construction for this litigation. *See* Ex. 6 (AT&T Claim Construction Order) at 18. In my opinion, "indoor network" is instead better understood according to its plain and ordinary meaning.

52. Under KAIFI's proposed construction, an indoor network can be any network "able to be received within an interior of a structure." This is overinclusive. Practically any network is "able to be received within an interior of a structure," including networks that no one would consider to be an "indoor network." Nothing in KAIFI's proposed construction precludes a cellular network from qualifying as an "indoor network." For example, at the time of the

'728 patent, 2G and 3G cellular networks had signals that were strong enough "to be received within an interior of a structure."[9] But a POSA would not have considered those networks to be "indoor networks" in the context of the '728 patent. Indeed, the '728 patent considers cellular networks to be "outdoor wireless internet networks," not "indoor networks." *See, e.g.*, '728 patent at 1:37–67, 6:34–43.

53. A POSA would have understood that an "indoor network" is not one that just is able to be received with an interior of a structure, but would additionally be one with a shorter broadcasting range that is meant for indoor structures, like homes and buildings.

54. Thus, in my opinion, "indoor network" is best understood according to its plain and ordinary meaning.

D. "registered indoor system ID information" (claim 1)

T-Mobile Proposed Construction	KAIFI Proposed Construction
No additional construction needed beyond construction of "indoor system ID information"	"indoor system ID information for which the data communication terminal has been granted access"

55. Claim 1 of the '728 patent requires "a data communication terminal that . . . stores ***registered indoor system ID information***." I understand that in the *AT&T* litigation, the parties agreed to construe this term as "indoor system ID information for which the data communication terminal has been granted access." *See* Ex. 6 (AT&T Claim Construction Order) at 7. I disagree with this construction because, it my opinion, it is more confusing than helpful.

56. I understand that the parties have agreed that "indoor system ID information" means "information uniquely identifying the indoor network." The question, then, is what "registered" adds. KAIFI's proposed construction replaces the simple and readily understood

[9] *See, e.g.*, Ex. 2 (GSM System Engineering) at 413–14 ("Due to greater system capacity, better in-building coverage, and probable lower cost, the GSM network will generally be used as a first preference wherever it is available.").

term "registered" with "for which the data communication terminal has been granted access." This is a lot of words for the jury to parse for a simple term like "registered."

57. In my opinion, "registered" is a term that would readily be understood by a jury. The concept of "registration" is ubiquitous in life—registering for classes, registering a car, registering to vote, etc. The '728 patent does not use "registered" in a unique or different sense. *See* '728 patent at 8:20–23, 10:9–13, 11:42–47, 12:63–65.

58. Thus, in my opinion, no additional construction of "registered indoor system ID information" is needed beyond the construction of "indoor system ID information."

I reserve the right to modify or supplement my opinions, as well as the bases for my opinions, including based on the nature and content of the documentation, data, proof, and other evidence or testimony that KAIFI or its experts may present, on any additional discovery or other information provided to me or found by me in this matter, or on further instructions or orders from the Court.

I declare under penalty of perjury that the foregoing is true and correct.

Executed this 15th day of March, 2021, in Hood River, Oregon.

Peter Rysavy